REMARKS

The Abstract has been amended such that it is now a single paragraph.

The Examiner has rejected claims 1-13 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,580,463 to Swartz.

The Swartz patent discloses film source video detection having a number of aspects.

The subject invention, as claimed in claim, includes the limitation "identifying a plurality of different objects within said consecutive fields, an object being defined as an image portion of said consecutive fields that can be described with a single motion model".

The Examiner now states that the first portion of this limitation is shown in Swartz at col. 13, lines 9-31, and that the second portion of this limitation is shown in Swartz at col. 1, lines 42-52.

Applicants submit that the Examiner is mistaken. In particular, col. 13, lines 9-31 states:

> "Functionally, an NTSC film detector 118 is provided separate from a PAL film detector 120. In practical embodiments, the two detectors are likely to share circuitry and/or functions. Both film detectors have the same purpose, to determine the onset of a film pattern, thus entering the film mode (indicated by putting the film Y/N signal in its Y (yes) condition), and, after entering the film mode, when the film pattern is broken, thus exiting the film mode (indicated by putting the film Y/N signal in its N (no) condition). A different film pattern is native to each

video format (NTSC or PAL) (resulting from 24 frame/second film sources in NTSC and 25 frame/second film sources in PAL). Both film detectors share certain characteristics and principles of operation. Both receive the FO_{mtn} output of the field motion detector 114, the motion output of the frame motion detector 124, and the edit Y/N signal from the sawtooth based edit detector 126. The primary input is the field motion detector's FO_{mtn} signal. The frame motion signal serves as a verification of the field motion signal. The edit Y/N signal provides an early indication, based on the detection of signal conditions that produce sawtooth artifacts, that the film pattern has been broken.",

while col. 1, lines 42-52 states:

"In the presence of motion from frame-to-frame within the 30 Hz progressively scanned video image sequences, when the video sequences in adjacent video fields are compared a 010101, etc. pattern results, indicating a 30 Hz progressively scanned source. Comparison of every second video field, to yield a 111111, etc., pattern, further confirms the 30 Hz progressive scan source. In order to operate, the arrangement relies on the spatial coincidence of pixels in the successive identical pairs of fields of the progressive scan television signal."

Applicants submit that a careful reading of these sections should indicate that there is not even a mention of an "object" in the consecutive fields, or that an object is defined as an image portion that can be described with a single motion model. Rather, the first portion of Swartz acknowledges the difference between the NTSC and PAL video formats and how that difference results in different film-to-video patterns, while the second portion of Swartz notes that a certain sequence is detected in the presence of motion from frame-to-frame in a progressively scanned video image,

and that this sequence is confirmed by comparing every second video field.

The invention, as claimed in claim 1, further claims "Establishing a motion parameter pattern for each one of said objects within said consecutive fields".

The Examiner now states that this element is disclosed in Swartz at col. 12, lines 60-67, col. 13, lines 1-6, and col. 7, lines 44-67.

Reproduced below are each of these sections of Swartz:

> "The purpose of the temporal and vertical expansion is twofold--to avoid the situation when a fast moving object leaves a "hole" between frames (e.g., a swinging pendulum) and, in the case of an NTSC signal, to avoid an appearance of fluttering between sharp and soft pictures when film material is not detected as film material. Also, expansion assures that the frame motion signal "surrounds" the field motion signal in the film detectors.";
>
> "The frame motion detector has three adjustable parameters: the motion LPF noise threshold, the motion HHPF-VLPF noise threshold, and the motion HHPF-VHPF noise threshold. The parameters should be adjusted to as to minimize false detection of motion caused by noise and subcarrier signal components."; and
>
> "As explained further below, the NTSC and PAL film detectors (118 and 120, respectively) examine the accumulated field motion between field 0 and field 1 and then search for the field motion film sequence pattern (a "10100" pattern in NTSC and a "10" pattern in PAL) before determining that the material is film and not video. In said U.S. Pat. No. 4,982,280, frames, instead of fields, are compared in the film detectors. The film detectors of the U.S. Pat. No. 4,982,280 impose a minimum size constraint instead of accumulating pixel differences. Nevertheless, a state machine as in said U.S. Pat. No. 4,982,280 may be

employed in the film detectors of the present invention. The film detectors are reset by an edit Y/N (yes/no) signal when a "bad edit" is detected. A bad edit means an edit performed in video on film material when two complete film frames have not been removed, thereby breaking the 3-2 pulldown ratio. A film sequence might look like

AAABBCCCDDEEEFF,

a good edit might look like

AAABBEEEFF, and

a bad edit might look like

AAACCCDDEEEFF,

where A, B, etc. are video fields derived from a particular motion picture frame (frame A, B, etc.)."

Applicants submit that while the term "object" is mentioned (only once) in the above sections, there is no showing or suggestion that "a motion parameter pattern" is established for that object or any other object. Rather, Swartz discusses temporal and vertical expansion, various adjustable noise thresholds to minimize the false detection of motion, accumulated field motion, and field motion film sequence pattern.

Finally, the invention, as claimed in claim 1, further states "comparing each established motion parameter pattern with a number of predetermined motion parameter patterns" and "determining said picture repetition mode for each one of said objects using the result of the comparing step."

The Examiner now states that these elements are disclosed in Swartz at col. 12, lines 20-47, and col. 13, lines 8-31.

Reproduced below is the first of these sections of Swartz (the second having been reproduced above):

> "Thus, three paths are provided: a horizontally lowpass filtered (HLPF) path, a horizontally highpass filtered and vertically highpass filtered (HHPF-VHPF) path, and a horizontally highpass filtered and vertically lowpass filtered (HHPF-VHPF) path. The purpose of three paths is to separate color subcarrier signal components from true motion information. The HLPF path output has substantially no subcarrier signal components as a result of the horizontal lowpass filtering action of LPF 1104. The two HHPF paths, carrying the complement of the HLPF path, require vertical filtering to reduce the subcarrier signal components present in the high-frequency portion of the spectrum. Such components have the appearance of a vertical line pattern which may occur in real television scenes. The filtering action of the HHPF-VHPF path passes low amplitude level subcarrier signal components. By setting the HHPF-VHPF threshold sufficiently high, true motion is differentiated from the subcarrier components. The filtering action of the HHPF-VLPF path rejects subcarrier components (which have a vertical component because they are out-of-phase from line to line) but passes horizontally moving patterns of lines (referred to as "moving multiburst") which must be detected as motion (such a pattern is rejected by the other two paths). The HHPF-VLPF path may have a lower threshold level than does the HHPF-VHPF path because the HHPF-VLPF path is not differentiating desired from undesired signal components based on amplitude. The HLPF and HHPF-VLPF threshold levels are selected for noise immunity."

Applicants submit that it should be apparent that there is no comparison of the established motion parameter pattern with predetermined patterns.

It appears that the Examiner has performed a keyword search of Swartz, and having found such keywords, such as "object" and "pattern", has presumed (without reading the reference) that Swartz is using these terms in the same way as in the subject invention.

Applicants submit that Swartz has nothing to do with identifying a plurality of different objects within consecutive fields, establishing a motion parameter pattern for each of the different objects, comparing each established motion parameter pattern with predetermined motion parameter patterns, and determining a picture repetition mode for each one of said objects using the results of the comparison.

It should be noted that the field motion film sequence pattern of Swartz relates to the pattern of film frames in the sequence of fields in the corresponding video signal. This field motion film sequence pattern is not related to any object identified in the consecutive fields.

In view of the above, Applicants believe that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, and as such, is patentable thereover.

Applicants believe that this application, containing claims 1-13, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

by _____
Edward W. Goodman, Reg. 28,613
Attorney
Tel.: 914-333-9611

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On April 07, 2005

By Brandt James